IBM System/3
Communications Control Program
Terminal Operator's Guide

Program Numbers:

5702-SC1 (Models 8 and 10)
5703-SC1 (Model 4)
5704-SC1 (Model 15)
5704-SC2 (Model 15)
5705-SC1 (Model 12)

Feature 6011/6012/6033/6070/607

Fourth Edition (November 1977)

This is a major revision of, and obsoletes, GC21-7580-2 and Technical Newsletter GN21-5459. Changes are indicated by a vertical line at the left of the change.

This edition applies to the System/3 program versions listed below and to all subsequent versions and modifications until otherwise indicated in new editions or technical newsletters.

SCP Program Number	System/3 Model	Feature No.	Version	Modification
5702-SC1	Models 8 and 10	6033	14	00
5703-SC1	Model 4	6033	14	00
5704-SC1	Model 15	6033/6070/6071	06	00
5704-SC2	Model 15	6011/6012	02	00
5705-SC1	Model 12	6070/6071	03	00

Changes are made to this information periodically. Before using this publication to operate an IBM system, refer to the latest *IBM System/3 Bibliography,* GC20-8080, for the edition that is applicable and current.

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This publication contains information about using the IBM System/3 Communications Control Program (CCP) from a terminal. You should be familiar with the operating procedures and terminology of the terminal you are operating.

There are two types of terminals; command and data. Command terminals are capable of entering CCP commands, receiving messages from CCP, and requesting application programs. Command terminals can also send and receive data under control of an application program.

Data terminals operate only under control of an application program. Data terminals may be capable of only sending data, only receiving data, or sending and receiving data.

This manual is principally directed to the operator of a command terminal: it describes the CCP commands, and online test procedures. Data terminal operators can use the operating procedures described and reference the online test procedures.

There is a glossary at the back of this manual to define the important terms.

SYSTEM/3 MODEL 8

The System/3 Model 8 is supported by System/3 Model 10 Disk System control programming and program products. The facilities described in this publication for the Model 10 are also applicable to the Model 8, although Model 8 is not referenced.

It should be noted that not all devices and features which are available on the Model 10 are available on the Model 8. Therefore, Model 8 users should be familiar with the contents of *IBM System/3 Model 8 Introduction*, GC21-5114.

Related Publications

The following publications contain additional information about the CCP.

Model 4

- *IBM System/3 Model 4 Introduction*, GC21-5146
- *IBM System/3 Model 4 CCP Concepts and System Design Guide*, GC21-5148
- *IBM System/3 Model 4 Operator's Guide*, GC21-5149
- *IBM System/3 Model 4 Programmer's Reference Manual*, GC21-5150

Model 10/Model 12

- *IBM System/3 Models 10 and 12 Communications Control Program System Reference Manual*, GC21-7588
- *IBM System/3 Communications Control Program Programmer's Reference Manual*, GC21-7579
- *IBM System/3 Models 10 and 12 Communications Control Program System Operator's Guide*, GC21-7581

Model 15

- *IBM System/3 Model 15 Communications Control Program System Reference Manual*, GC21-7620
- *IBM System/3 Communications Control Program Programmer's Reference Manual*, GC21-7579
- *IBM System/3 Model 15 Communications Control Program System Operator's Guide*, GC21-7619

Models 4, 8, 10, 12, and 15

- *IBM System/3 Communications Control Program Messages Manual*, GC21-5170
- *IBM System/3 Communications Control Program System Design Guide*, GC21-5165

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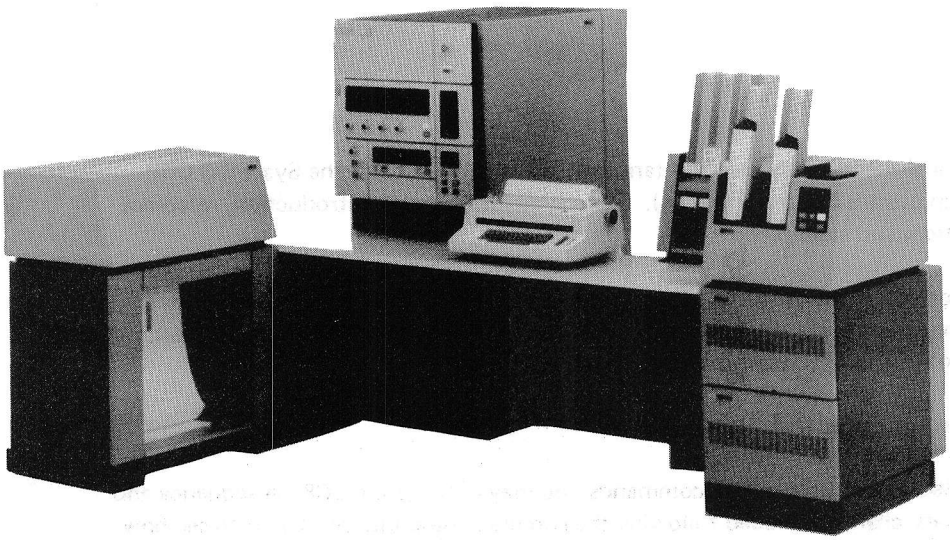
This manual describes the use of a terminal that is controlled by the System/3 CCP (Communications Control Program). The manual contains an introduction, reference information, and examples.

The introductory material lists general and special considerations for operating terminals under control of the CCP. These considerations supplement the standard operator's procedures given in the operator's guide for your terminal.

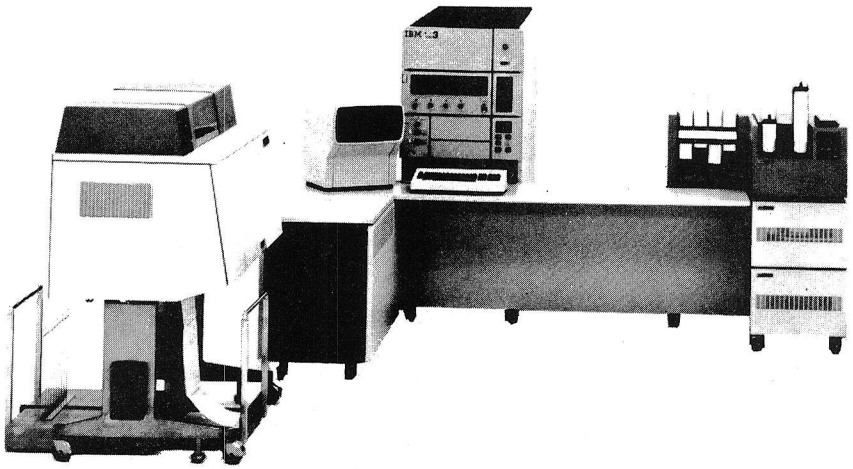
The reference material includes:

- Detailed descriptions of the commands you may enter to the CCP. A sequence and summary chart is included following the command descriptions. Use it to see how all the command information fits together.
- Terminal test procedures for checking proper operation of your terminal.
- A brief description of the spool file copy program, $QCOPY.

Example work sessions of varying complexity are shown to help you understand CCP operations. A sample sheet showing the steps taken to process an application program follows. Here, you can insert your own document showing the steps to follow while operating the terminal.



IBM System/3 Model 10 Disk System



IBM System/3 Model 15

Chapter 1. Introduction

CCP is the communications control program for the IBM System/3 Model 4, IBM System/3 Model 8, IBM System/3 Model 10 Disk System, IBM System /3 Model 12, and IBM System/3 Model 15.

The CCP lets you use the facilities of System/3 via terminals. A terminal is a device that is capable of sending and/or receiving information over a communication channel such as a telephone line. The terminal may be in the same room as the computer, in the same building, or in another city. The computer can process work from many terminals because of the speed at which it operates. Therefore, when working on your terminal, it may seem as though you have exclusive use of the computer.

The work you perform at a terminal is processed by computer programs that may be unique to your installation. These are *application* programs. They are designed to accept the kind of data you present, and to send back the kind of information required for your work. These application programs run under control of CCP.

CCP provides the computer control necessary to let you call on those programs, and to permit those programs to communicate with your terminal. In order to call upon application programs, you must communicate with CCP by a set of commands entered from your *command terminal* (see *Preface*). A *command* is a group of characters, which order CCP to perform some action. The command entered most often is one which tells CCP to start running a certain application program. But there are other commands as well, and they too are described in this manual.

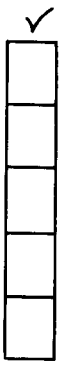
CCP responds to commands by either performing the action ordered, or telling you why it cannot perform the action. The messages sent to you by CCP are explained in the *IBM System/3 CCP Messages Manual,* GC21-5170. When you call upon an application program and CCP starts it, that program may send you messages which are unique to that program. These messages can be explained to you by your location's data processing personnel.

Read this entire manual first to familiarize yourself with terminal operation using CCP. Then, after you are experienced in using your terminal with CCP, you may need this manual only for reference purposes.

Terminal Session

A *terminal session* is the duration of time from sign on (start) until sign off (stop). Signing on and signing off tell CCP that you are ready to begin or end work at your terminal. Before you begin a terminal session, you must know:

Checklist



- How to operate your terminal.
- Your work schedule.
- Current system information.
- Application program information.
- How to use the CCP commands.

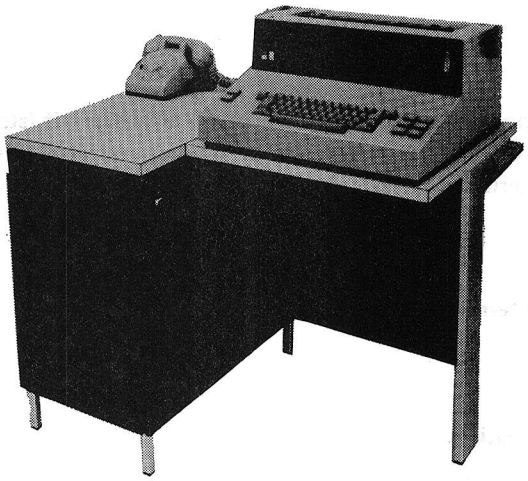
HOW TO OPERATE YOUR TERMINAL

The general procedure for beginning operations on most terminals is:

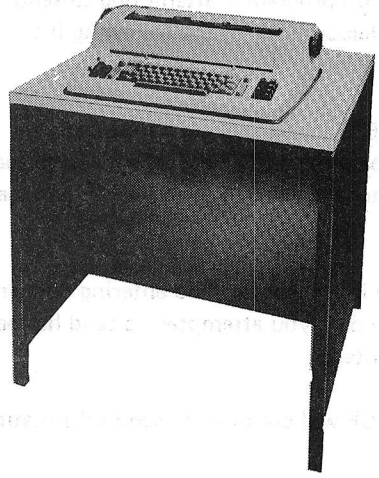
Operating Procedures

1. Turn power on.
2. Place terminal in communicate mode.
3. Enter data or CCP commands.
4. Send data or CCP commands to the system.

In order to use CCP, you must first be familiar with the operating procedures for your terminal. The following pages show photos of the terminals supported by CCP. Beneath each photo is the title of a publication that describes the operating procedures for that terminal. Refer to that publication if you do not know how to operate the terminal. Also listed with each terminal are the special operating considerations for using it with CCP.



- *IBM 1050 Operator's Guide,* GA24-3125.
- Supported by CCP for Models 10, 12, and 15.
- It is more efficient to end each input from the terminal by pressing carriage RETURN, using the automatic EOB feature, than to let output sent to the terminal cause the carriage return.
- If the automatic EOB feature is not used, it is still more efficient to press carriage RETURN before EOB rather than to let the carriage return occur at the beginning of output to the terminal.



- *IBM 2740/2741 Communications Terminal Operator's Guide,* GA27-3001.
- Supported by CCP for Models 10, 12, and 15.
- The dial-disconnect feature of the 2740 Model 1 should be used only to disconnect the terminal from the communication line after the terminal has been logically disconnected from the CCP system; that is, /OFF DROP has been issued (see index entry: */OFF*). Using the key at any other time can cause unpredictable results.

2740 Model 1 with Station Control and Checking

- Except where your procedures indicate otherwise, use the EOB key rather than the EOT key at the end of each input from your terminal.
- It is somewhat more efficient to end each input from your terminal by pressing carriage return before EOB, than to let the carriage return occur at the beginning of output to your terminal.

2740 Model 1 with Automatic EOB Feature

- It is more efficient to end each input by pressing carriage RETURN, which causes EOB to be sent automatically.

2740 Model 2

- Do not key in data unless your terminal is being polled (STANDBY and TRANSMIT lights flashing alternately).

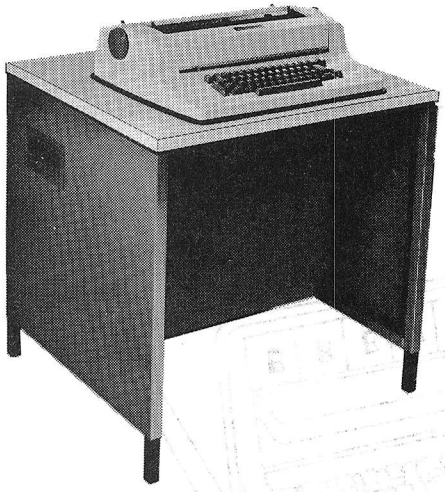
2740 Model 2 with Buffered Receive Feature

- The ATTN light and alarm turn on when your terminal is in local mode, when it is out of paper, or when CCP or an application program is attempting to send you information while the terminal is busy. Perform one of the following if a program is attempting to send information to you:

  - Press the carriage RETURN key, then the BID key if you are entering data (ENTER light on). Your message cannot be sent to CCP until the message that CCP is atempting to send is printed. Reenter your data after the CCP message is printed.

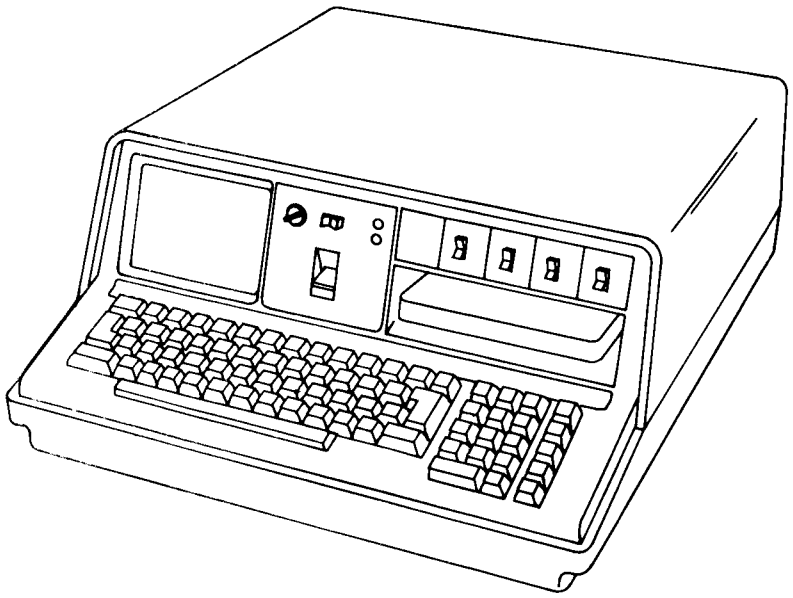
  - Wait until CCP finishes sending its message if you are finished entering data and have pressed BID (BID light on). Since the data you attempted to send has been lost, reenter it after the CCP message is printed.

  - If you are not entering data, do nothing; CCP will continue to send information.

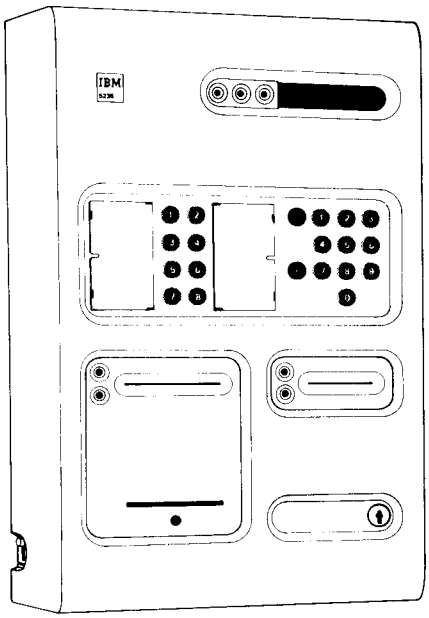


- *IBM 2740/2741 Communications Terminal Operator's Guide,* GA27-3001.
- Supported by CCP for Models 10, 12, and 15.
- Pressing the ATTN key while data is being printed at your terminal causes the message being sent to you to terminate immediately. This results in an error code being returned to the program that is sending the data. Pressing the ATTN key in this manner is not recommended, because the program may not be prepared to handle this type of error code.
- From the time your keyboard unlocks until you press carriage RETURN, no output can be sent to you. If you are operating the 2741 as a command terminal, and you are not communicating with a program, but are expecting a message from the system operator, occasionally press carriage RETURN to permit output to reach your terminal. This yields an error message, but it is the only way to permit such output to reach your terminal. After all messages are printed, you are again allowed to enter a command.

IBM 5100 Portable Computer

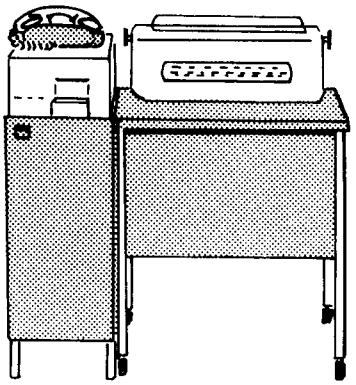


- *IBM 5100 Communications Reference Manual,* SA21-9215.
- Supported as a 2741 Communications Terminal.
- Supported by CCP for Models 10, 12, and 15.

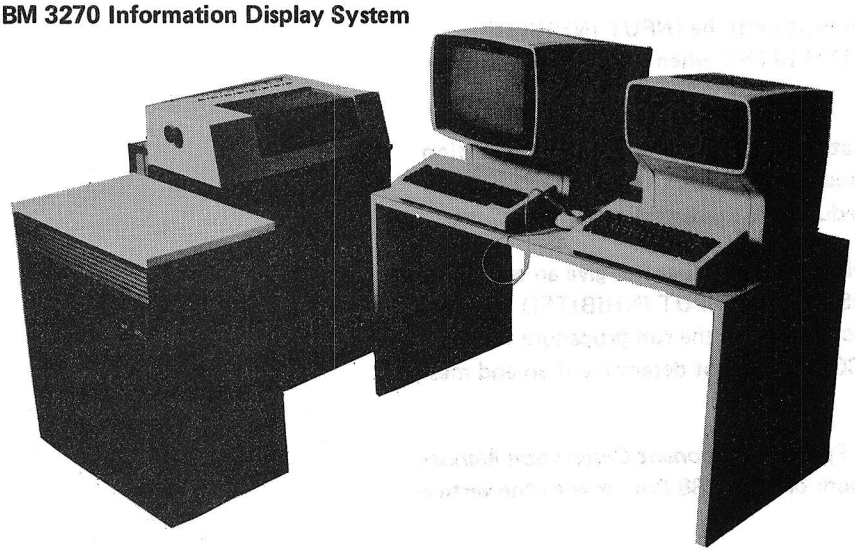


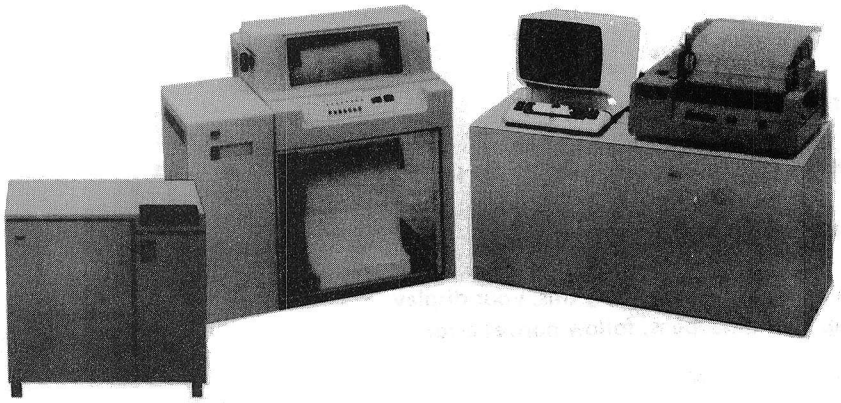
5235-001

- Supported as a 3741 Model 2 or 4, noncommand capable, input only terminal.



- *IBM Communicating Magnetic Card User's Guide,* G543-0609.
- Supported by CCP for Models 10, 12, and 15.





- *IBM 3270 System Operator's Guide,* GA27-2742.
- Supported by CCP for Models 4, 10, 12, and 15.
- To request online test, press CLEAR immediately followed by RESET so that the screen is blank when entering the test request parameters. (See index entry: *test for 3270*).
- When you are communicating with the CCP, positions 2 through 81 are used for your input. The next 78 positions (82 through 160) are used to return CCP responses. If you are using the program request under format (PRUF) option, positions 161 through the end of the screen can also be used for input to CCP for data with a program request.
- To initiate a session or to interrupt communication with an application program, the first 80 positions on the screen should be blank. If there are fields currently defined in these first 80 positions, press CLEAR to clear the screen.
- When CLEAR is used, wait for CCP instructions to appear on the screen before entering your command or data mode escape characters (see *Data Mode Escape* in Chapter 3).

- When communicating with CCP, always wait until the INPUT INHIBITED indicator is off. CCP turns off INPUT INHIBITED when it recognizes your input and is ready for your next input.

  Note: If the INPUT INHIBITED indicator is *not* turned off by the application program (an option that may be specified), press RESET to turn it off. This should be documented in the run procedures for these application programs.

- When you are running a program for which the CCP does not give an end message when the program completes, press RESET if the INPUT INHIBITED indicator is on, and continue. This should be documented in the run procedure for the program. Specifications made during CCP assignment determine if an end message is sent.

- Refer to the *3270 Information Display System Component Description Manual*, GA27-2749, when setting the forms length on the 3288 Printer with the vertical forms control feature.

- When you have a message on your screen while using a 3275 with the dial feature, the SYSTEM READY indicator is on. If you press ENTER then but the computer does not receive the data, the SYSTEM READY light goes off. If this happens:

  1. Press RESET.

  2. Momentarily raise and release the DISCONNECT switch.

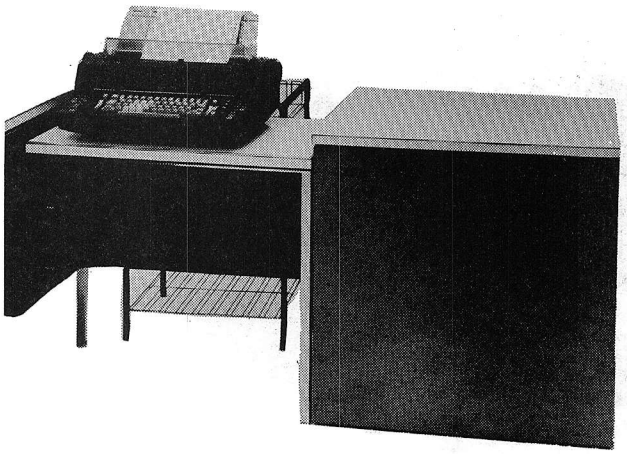
  3. If you do not have the auto-answer feature installed, hang up the phone.

  4. Try again to contact the computer and send the message.

  If the STATUS indicator light comes on while you are doing this, your display station has detected something wrong. If this happens, follow normal error recovery procedures.

IBM 3735 Programmable Terminal

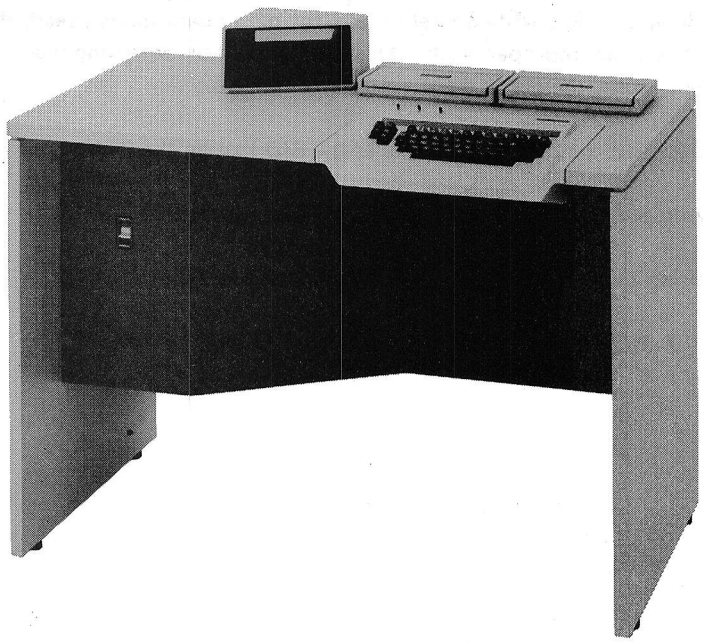
3735



- *IBM 3735 Terminal Operator's Guide,* GC20-7011.
- Supported by CCP for Models 4, 10, 12, and 15.
- Commands cannot be entered from this terminal.
- The 3735 should not be placed in communicate mode until the terminal operator is ready to transmit or receive data with the CCP.

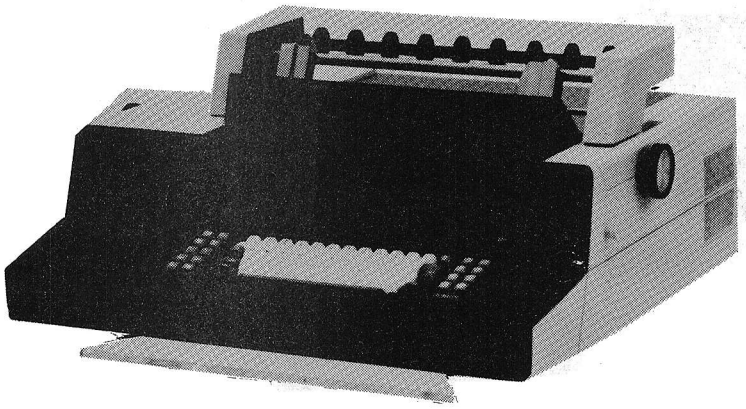
IBM 3741 Data Station Models 1 and 2/Programmable Work Station Models 3 and 4

3741



- *IBM 3741 Data Station Operator's Guide,* GA21-9131.
- Supported by CCP for Models 4, 10, 12, and 15.
- Commands cannot be entered from this terminal.
- The 3741 should not be placed in communicate mode until the terminal operator is ready to transmit or receive data with the CCP.

IBM 3767 Communications Terminal Models 1 and 2



- *IBM 3767 Terminal Operator's Guide,* GA27-3106.
- Supported by CCP for Models 10, 12, and 15.
- With the proper emulation feature, the following terminals can be emulated: 2740-1, 2740-2, or 2741.
- At least one of the following emulation features must be ordered: 2740-1 (#7111 2740-2 (#7112), 2741 (#7113).
- If a line goes down during a write operation and the next operation is a read, the terminal might be in an improper mode. This can be fixed by switching the terminal to local mode, then back to communicate mode.
- The SYS REQ key on the 3767 is the same as the BID key on the 2740-1.
- The EOM key on the 3767 is the same as the EOT key on the 2740-1.
- The ATTN key on the 3767 is the same as the ENTER key on the 2740-2.
- Unlike the 2740, the 3767 does not stop printing at the right margin.

OTHER INFORMATION YOU NEED

Your Work Schedule

Schedules

It is important to know your work schedule. You should know the answers to the following questions before using your terminal:

- Are certain jobs to be run each day?
- Must certain jobs be run at special times of the day?
- Must jobs be done in any particular order?
- Is the use of the terminal limited to certain hours or a certain length of time?

Current System Information

System Information

This information is determined by your data processing personnel. They must tell you if it is applicable to your terminal.

- Is a *password* required to use the terminal? Password checking allows only authorized personnel to use a terminal. If it is required, you must know the current password and enter it when you sign on (see index entry: *sign-on command*). If you cannot enter it correctly, CCP will not accept commands.
- Does your installation permit a terminal operator to interrupt the processing of a requested application program? Such an interruption might be made in order to send a message to the system operator, or to release the terminal from control of the program. If it is permitted, you must know the six characters to enter at your terminal to interrupt a program. These are called the data mode escape characters (see index entry: *data mode escape*).
- Is there a procedure to be followed when leaving a terminal? Must you sign off whenever you leave the area of the terminal? (See index entry: *sign off command*.)

Program Information

Your data processing installation may use different application programs to do different jobs, such as order entry and inquiry against inventory. During your work session, you communicate with these programs through the CCP. You must know what type of information is required by the application program. The following example shows information you might need before you communicate with an application program. Items 2 and 3 in the example are described in Chapter 3, *Using The CCP From A Terminal.* Use this example only as a guide; it can be expanded based on the needs of your installation.

Application Parts Inquiry Date June 1, 197X

Program Name INVTRY Number 1234 Programmer John Doe

1. Programs function Reads a part number. You key in part number and it responds with on hand quantity.
2. Queue program request Yes (No)
3. Any /FILE commands Yes (No)
   /FILE _____,_____
   /FILE _____,_____
   /FILE _____,_____
   /FILE _____,_____
4. Any input data to be included with the program request Include part number with program request.
5. Any exceptional conditions Yes (No)
   Send message to system operator _____
   Error recovery _____
   Data mode escape _____
   /NAME _____